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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Seth Haberman

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07/03/2006

WILMER CUTLER PICKERING HALE AND DORR LLP  
399 PARK AVENUE  
NEW YORK, NY 10022

EXAMINER

TRAN, HAI V

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/735,983		HABERMAN ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Hai Tran		2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 4,5 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-9, 11-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/03/2006 has been entered.

### ***Response to Arguments***

Applicant's arguments filed 01/03/2006 have been fully considered but they are not persuasive.

Applicant argues, "Applicants respectfully point out in all cases, Zhang depends upon recoding of the data streams, thereby altering the data stream."

In response, the Examiner respectfully disagrees with Applicants because Applicant 's Fig. 7 shows the data stream 120 with inserting "empty" packets 124 (Fig. 7) because the bandwidth of the multiplexed data stream 120 is higher than required to supply the packets 122 and Fig. 8 shows the multiplexed data stream 120 at a point just before and after a gap 57 is inserted, the packet transport stream 122 are still sent, but to increase the data rate, the empty transport stream packets 124 are reduced or eliminated at a time before the gap 57. In view of that Applicants clearly contradict

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themselves because removing "empty" packets 124 at a point just before and after a gap 57 is inserted, thereby alters the multiplexed stream 120 as shown in Fig. 8.

Applicant further argues, "In Applicants invention as claimed, the content of the data streams are not affected."

In response, the Examiner respectfully disagrees with Applicants because the Examiner does not understand how Zhang upon recoding of the data streams, the content of the data streams are affected, as argued by Applicants. For example, a data stream of a "movie" is re-encoded; one ordinary skill in the art would recognize that the **content** (story) of the re-encoded movie would not be changed!

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3, 6-9, and 11-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Limitation "wherein such changing of multiplexing does not affect the content of said plurality of data streams" in independent claims 1, 13 and 16 is not disclosed in the specification. In view of Applicant's specification page 11, Fig. 7 description, it seems

that empty transport stream packets 124 are inserted into the multiplexed data stream thereby affect the content of the multiplexed data stream (plurality of data streams).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 6-9, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst Jr. (US 6038000) in view of Zhang et al. (US 6611624).

Claim 1, Hurst discloses a method of preparing a plurality of data streams to allow seamless switching between said data streams by a switching device, wherein said switching device includes data stream buffering for an output data stream, said method comprising the steps of (Col. 2, lines 63-Col. 3, lines 65+):

Providing a plurality of data streams (Source 1 and 2 of Fig. 1), said data streams including data which is divided into segments, wherein said segments include synchronized starting points and end points on all of said plurality of data streams (Col. 3, lines 14-Col. 4, lines 3 and Col. 5, lines 30-56);

Increasing a data rate (320A is flushed) of said plurality of data streams at a time before an end point of a segment (Fig. 2, Col. 11, lines 3-11); and

Providing gaps in said plurality of data streams between said end points (out point) and said starting points (in-point) (Fig. 5A-C; Col. 18, lines 48-60).

Hurst does not clearly disclose, "multiplexing said plurality of data streams to said switching device" and "increasing a data rate of the plurality of data streams by changing the multiplexing for said plurality of data streams wherein such changing of multiplexing does not affect the contents of the plurality of data streams."

Zhang discloses pluralities of data streams are multiplexed to said switching device and increasing a data rate of the plurality of data streams by changing the multiplexing for said plurality of data streams wherein such changing of multiplexing does not affect the contents of the plurality of data streams (Col. 11, lines 43-Col. 12, lines 30. Note: re-encoded data (movie) does not change the content of the movie!).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hurst with Zhang so that the overall bit rate of the multiplex fits within the available bandwidth.

Claim 2, Hurst further discloses including the step of inserting trigger gap indicators in said plurality of data streams proximate said end points is further met by Hurst because Hurst must insert trigger gap indicators (black-screen or time-related decision or event) so the system could detect and a splice a decision could be made at the end of the from stream (Col. 6, lines 9-36).

Claim 3, Hurst does not clearly disclose, "wherein the step of increasing a data rate includes increasing a bandwidth of said plurality of data streams."

Zhang discloses wherein the step of increasing a data rate includes increasing a bandwidth of said plurality of data streams (Col. 12, lines 10-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hurst with Zhang so the decoder buffer does not overflow or underflow, regardless whether it is at splicing point or before/after the splicing.

Claim 6, Hurst does not clearly disclose, "wherein the step of increasing a data rate includes compressing said data of said plurality of data streams."

Zhang discloses wherein the step of increasing a data rate includes compressing said data of said plurality of data streams by recoding (bit reduction) on all video programs (Col. 11, lines 44-Col. 12, lines 30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hurst with Zhang so to shape the bit stream rate of the streams to fit within the available bandwidth.

Claim 7, Hurst further discloses wherein said plurality of data streams include multimedia data streams (video see Col. 16, lines 25-65+, audio see Col. 17, lines 53-65+ and auxiliary data see Col. 19, lines 35-65+).

Claim 8, Hurst further discloses wherein said plurality of data streams include MPEG-2 encoded data streams (Col. 2, lines 53-65+).

Claim 9, Hurst further discloses wherein said plurality of data streams are multiplexed in an MPEG-2 transport stream (Col. 21, lines 15-24).

Claim 12 Hurst further discloses the step of switching from one of said plurality of data streams to another one of said plurality of data streams at an end point of a segment by said switching device (Fig. 3).

Claim 13, Hurst discloses A system for preparing a plurality of data streams for transmission to allow a receiver receiving said transmitted data streams to seamlessly switch between said transmitted data streams (Fig. 1; Col. 2, lines 43-65+); said system comprising:

A content preparation component (Fig. 1 not shown but inherent), coupled to a source of said plurality of data streams (Compressed Bit stream Source 1 and 2), to encode content in said plurality of data streams with synchronized starting points and end points common to all of said plurality of data streams (Col. 3, lines 14-Col. 4, lines 3 and Col. 5, lines 30-56);

A gap creation component (Fig. 1, not shown but inherent in order to perform as disclosed), coupled to said content preparation component, said gap creation component to insert gaps in said plurality of data streams between said end points (Out-Point) and said starting points (In-Point) (Fig. 5A-C; Col. 18, lines 48-60).

A data rate control component (Fig.1, not shown but inherent), coupled to said gap creation component, to dynamically control data rates of said plurality of data streams (Fig. 2, Col. 11, lines 3-11);

Hurst does not clearly disclose the plurality of data streams for transmission is prepared by a multiplexed transport stream and “to dynamically control data rates of



the plurality of data streams wherein such changing of multiplexing does not affect the contents of the plurality of data streams.”

Zhang discloses pluralities of data streams are multiplexed into multiplexed transport stream to said witching device and increasing a data rate of the plurality of data streams by changing the multiplexing for said plurality of data streams wherein such changing of multiplexing does not affect the contents of the plurality of data streams (Col. 11, lines 43-Col. 12, lines 30. Note: re-encoded data (movie) does not change the content of the movie!).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hurst with Zhang so that the overall bit rate of the multiplex fits within the available bandwidth.

Claim 14, “trigger insertion component (not shown but inherent), coupled to said data rate control component, said trigger insertion component to insert trigger messages into said plurality of data streams” is further met by Hurst because Hurst must insert trigger gap indicators (black-screen or time-related decision or event) so the system could detect the event in which a splicing decision could be made at the end (out-point) of the from stream (Col. 6, lines 9-36).

Claim 15, Hurst further discloses wherein said plurality of data streams are transmitted using an MPEG-2 compliant transport stream, and said data rate control component controls data rates of said data streams in said transport stream (Col.

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2, lines 50-62; Col. 3, lines 23-65; Col. 12, lines 44-56; Col. 13, lines 4-25; Col. 14, lines 63-Col. 15, lines 21 and Col. 16, lines 25-65+).

2. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst.

Claim 11 of Hurst does not clearly disclose, "wherein said plurality of data streams include AC3 encoded data streams."

Official notice is taken that the use of AC3 encoder for encoding audio data is well known in the art, i.e., Dolby surround sound. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hurst to use an AC3 encoder so to take the advantage of the most widely adopted high-end audio signal compression technique of AC-3 multi-channel high-fidelity audio signal compression invented by Dolby Inc.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 16-18 are rejected under 35 U.S.C. 102(b) as being unpatentable by Freeman et al. (US 5724091).

Claim 16, Freeman discloses a switching apparatus (Fig. 4 and 5), to switch between a plurality of multiplexed data streams, wherein said data streams are prepared such that each data stream includes synchronized starting points and end points, with gaps between end points and starting points (VBI), and wherein the data rate of the data streams is increased at a time before the synchronized end points, and the data rate for the data streams is decreased at a time after the gaps (Col. 13, lines 15-Col. 15, lines 53), said increasing and decreasing for said data streams is performed by changing the multiplexing of said data stream, wherein such changing of multiplexing does not affect the contents of said data streams (during the multiplexing process, the contents of movies and interactive sports program do not change; Col. 5, lines 40-Col. 6, lines 23), said switching component comprising:

- a switch controller component (VBI switch 180 of Fig. 4 or microprocessor of Fig.5; Col. 15, lines 1-5);

- a data stream receiver component (102A-B of fig. 4 and 102 of Fig. 5), to receive the multiplexed data streams;

- a demultiplexer component(106A-B of Fig. 4 or 106 of Fig. 5), coupled to said data stream receiver component and said switch controller component (180 of Fig. 4 or 108 of Fig. 5), to select at least one of said multiplexed data streams in response to said switch controller component (Col. 14, lines 5-10 and Col. 15, lines 1-5);

- a buffer component (164/165 of Fig. 4, 190 of Fig. 5) coupled to said a demultiplexer component, to receive said selected at least one data stream; and to

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buffer said at least one data stream when said data rate for said data stream is increased (Col. 13, lines 45-Col. 14, lines 15 and Col. 14, lines 60-Col. 15, lines 53).

Claim 17, Freeman further discloses wherein said switching apparatus is a receiver for MPEG encoded media streams (Col. 15, lines 34-43).

Claim 18, Freeman further discloses wherein said switching apparatus is a set top box (Col. 9, lines 63-65+).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Tran whose telephone number is (571) 272-7305.

The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HT:ht  
06/23/2006



**HAI TRAN**  
PRIMARY EXAMINER